UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF
ECOSYSTEMS, TRIBAL AND
PUBLIC AFFAIRS

October 19, 2009

Slater Turner, District Ranger
Paulina Ranger District
7803 Beaver Creek Road
Paulina, Oregon 97751

RE: EPA Region 10 Review of the Upper Beaver Vegetation Management Project
EPA Project Number: 09-050-AFS

Dear Mr. Turner:

The U.S. Environmental Protection Agency (EPA) has reviewed draft Environmental Impact Statement (DEIS) for the Upper Beaver Vegetation Management Project (CEQ Number 20090303) on the Paulina Ranger District of the Ochoco National Forest, Crook County, Oregon. Our review of the DEIS was conducted in accordance with our responsibilities under National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act.

Section 309 specifically directs the EPA to review and comment in writing on the environmental impacts associated with all major federal actions. Under our Section 309 authority, our review of the DEIS considers the expected environmental impacts, and the adequacy of the EIS in meeting procedural and public disclosure requirements of NEPA.

The focus of the proposed actions is modification of stand structure across the planning area in order to improve the vegetative condition and restore plant communities toward the range of historic conditions. Alternative 2 (the Proposed Action) would seek to move forested vegetation toward the historic range of variability through commercial thinning, precommercial thinning, juniper removal, hardwood restoration, and fuels treatments. Alternative 3 would implement similar treatments to Alternative 2, but would avoid commercial activities in riparian areas.

EPA is supportive of the proposed management objectives, particularly as they relate to increasing the number of large trees, increasing late and old structure stands, and introducing large woody debris and hardwood plant species within the Riparian Habitat Conservation Areas (RHCAs). Our review identified concerns related to the supporting analysis for the development of riparian prescriptions. Specifically, we have questions about the application of basal area targets, and the identification of the primary shade zone. We also have questions about how grazing will be managed as the area proposed for treatment recovers. Please refer to the attached comments for further detail.

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Based on our analysis, we have rated this DEIS as EC-2 (Environmental Concerns – Insufficient Information). An explanation of this rating is enclosed. We appreciate the opportunity to provide comments, and I encourage you to contact me with any questions at (503) 326-2859 or kubo.teresa@epa.gov.

Sincerely,

/s/
Teresa Kubo, Acting Manager
Environmental Review and Sediment
Management Unit

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EPA Region 10 Detailed Comments
Upper Beaver Vegetation Management Project
October 19, 2009

Basal Area Targets in RHCAs

Basal area in riparian stands east of the Cascades can vary dramatically from site to site. Danehy and Kirpes[1] found a range of 0 to 200 square feet/acre at a distance of 20 meters from the stream. The DEIS indicates on page 19 that stands would generally be thinned from below to recommended stocking levels based on site productivity. The prescriptions described in figures 2-1 and 2-2, however, define basal area targets narrowly (60-80 square feet/acre). It is unclear to what extent additional consideration would be given to those areas that may historically have had higher basal area (dry grand fir plant association group, for example).

Recommendation:

- We recommend that the FEIS clarify whether prescriptions would allow for higher basal area targets in the wetter PAGs where these targets would be within the historic range of variability (HRV).

Shade Analysis

Shade data included in table 3-41 indicates that most of the streams in the project area are below the shade target established in the LRMP (80%).[2] Where that is the case, the LRMP calls for all existing shade to be maintained. The EIS maintains that "because the trees that are proposed for removal in RHCAs are below the upper canopy, the primary shade zone in RHCA units would not be affected."[3] At least one recent study found that thinning from below can more than double mean modeled light transmittance.[4] Given these findings, and the relative paucity of studies that have modeled changes in light following silvicultural manipulation,[5] we encourage the Forest to revisit this assumption.

Recommendation

- We recommend that the FEIS provide additional support for the assumption that harvest from below will not affect stream shading.

Primary Shade Zone Determination

We are supportive of management within the RHCAs where stand conditions are outside of HRV and treatment can support achievement of riparian management objectives. We have

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[1] Robert J. Danehy, Brian J. Kirpes. 2000. Relative humidity gradients across riparian areas in Eastern Oregon and Washington Forests. Northwest Science, Vol. 74, No. 3.
[2] Upper Beaver DEIS, page 89
[3] Upper Beaver DEIS, page 94
[4] Sprugel, D.G., et al., Spatially explicit modeling of overstory manipulations in young forests: Effects on stand structure and light. Ecol. Model. (2009), doi: 10.1016/j.ecolmodel.2009.07.029
[5] Coates, K.D., Canham, C.D., Beaudet, M., Sachs, D.L., Messier, C., 2003. Use of a spatially explicit individual-tree model (SORTIE/BS) to explore the implications of patchiness in structurally complex forests. For. Ecol. Manage. 186, 297-310.

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some concern, however, with the use of Table 3-43 to determine the primary shade zone. The table illustrates how the width of the primary shade zone can vary based on varying slope and tree height. The table does not, however, illustrate how the width of the primary shade zone may be over- or underestimated because the calculation does not account for such parameters as stream orientation or sinuosity.[6] EPA has also indicated possible concern with some of this table's underlying assumptions when it has been used in other applications. Specifically, we have some concern over the assumption that no significant change in temperature would result as a function of increasing effective shade beyond 80%.

Recommendation:

- We recommend that management within the RHCA be guided by site specific analysis of existing shade and site potential shade.

Grazing

The DEIS documents that grazing has affected the ability of the watersheds in the project area to provide vigorous and stable riparian habitat.[7] The document further recognizes that the proposed thinning and burning activities in the RHCAs will provide additional access as well as highly palatable forage to livestock.[8] We appreciate that there have been changes in the range utilization standards, and other improvements in recent years that are improving overall range conditions. We are concerned, however, at the lack of specificity on measures for ensuring livestock would not impede the recovery of the RHCAs following treatment.

Recommendation:

- We recommend that the FEIS include: (i) an inventory of those areas for which livestock exclusion would be critical to recovery (for example, where soils rate as moderately or highly erosive, [9]), (ii) a discussion of measures that would be used to exclude cattle, and (iii) a discussion of the implementation and effectiveness monitoring that would be conducted relative to these measures and in the interest of ensuring a full and rapid recovery of the RHCAs.

[6] Northwest Forest Plan Temperature TMDL Implementation Strategies, Final Draft September 2005
[7] Upper Beaver DEIS, page 127
[8] Upper Beaver DEIS, page 183
[9] Upper Beaver DEIS, page 98

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